

Discussion on ITR February 18, 2003

LATBauerdick, Fermilab



Major Step for the NSF LHC RP

Research Program profile is now included in the NSF FY04 budget request

- ➔ you can download an Excel Spreadsheet from the NSF web pages
- our US S&C+M&O funding profile for FY03 to FY08 is official

Dan Green:

- ➔ “The good news for the day is that NSF finally has a plan to fund the Research Program (and all MREs) in a logical way. The plan is as we hoped - 5,10,15,20, 25(new!) for ATLAS+CMS from FY03 (we will see - trip Feb. 21 to NSF) to FY07. This—if it occurs—will make the ITR less crucial to the RP. So, there is sometimes good news”

US CMS Universities will profit from this in major ways

- ➔ this will allow us to develop a strong CMS environment to do analysis
- ➔ will be used to address the CMS core issues: developing and implementing the CMS distributed computing model for U.S. Universities, end-to-end services, data access and distribution, etc
 - 5 new FTE at U.S. Universities for Architecture, Middleware and Physics support
 - Start of a pilot Tier-2, possibly a T2-based PAC
 - start Grid Operations R&D and support (2-3 FTE)



Berkeley Nov 2002 -- Where the ITR Fits In

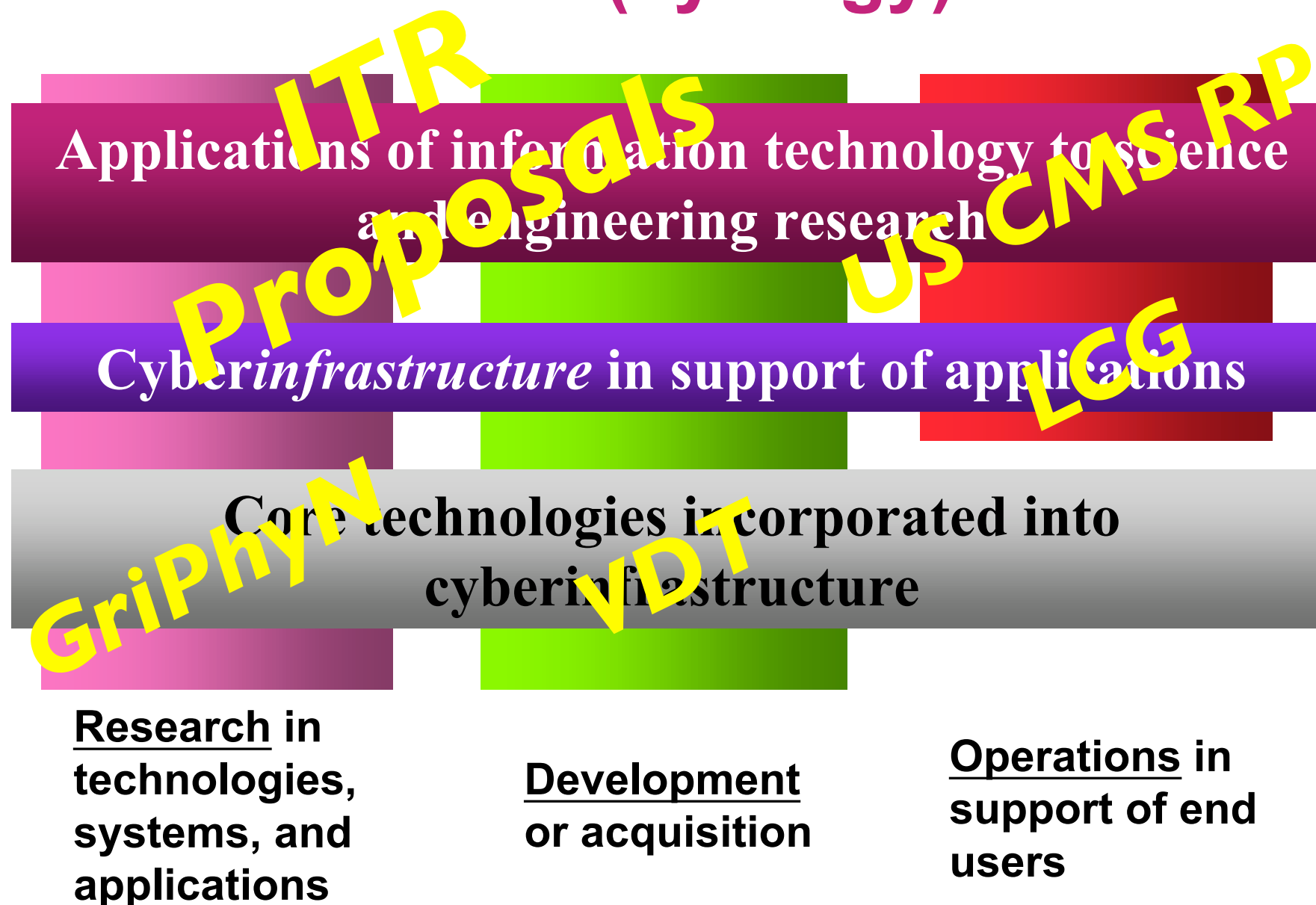
National Science Foundation

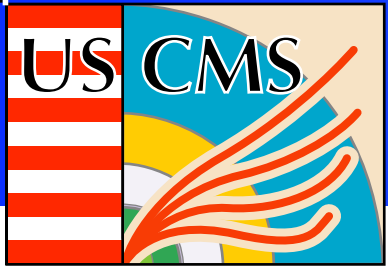


Blue Ribbon Panel on Cyberinfrastructure



Coordination (synergy) Matrix





ITR Proposals medium and large

Medium ITR on Collaborative Tools submitted last week

“Grid-enabled Collaborative Environment for Scientific Research”

Large overlap with WBS 1.2.4 Collaborative Tools

US CMS S&C will work very closely with the GEC SR project
as will the M&O/VCR/PAC program

“will support it in any way necessary to reach its goals”

US CMS and Atlas Institutions involved:
Caltech (lead institution), Fermilab, Maryland, FIU, ...



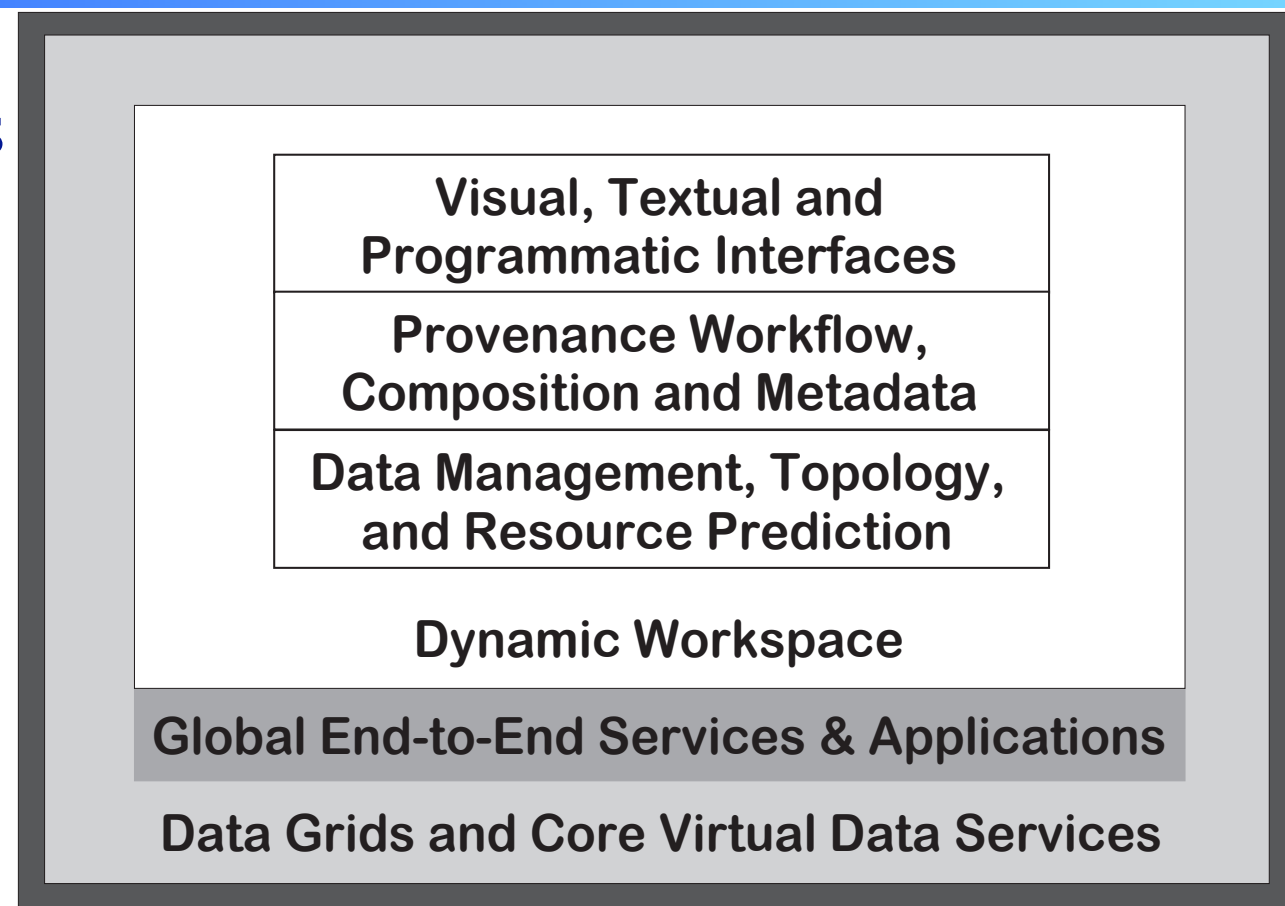
Large ITR: “Dynamic Workspaces” DoVE

This is About Communities of Scientists Doing Research in a Global Setting

- ➡ Enable scientists to collaborate as communities in a global scientific enterprise that is, the global experiment collaboration

Provide specific technologies and capabilities to this goal

- ➡ Dynamic workspaces that communities of scientists setup to do research
 - Functionalities for mapping the enterprise hierarchically organized and managed basic computing and storage resource infrastructure (tiered system of regional centers) onto community workspace view where scientists work
- ➡ Knowledge system that supports provenance and workflow management
 - Allows to exchange the science workflows, Tracking, documenting, sharing of scientific analyses processes and results
 - Declarative system of data objects, provenance and other meta-data, workflows, interfaces to Grid/Web services
- ➡ User Interfaces





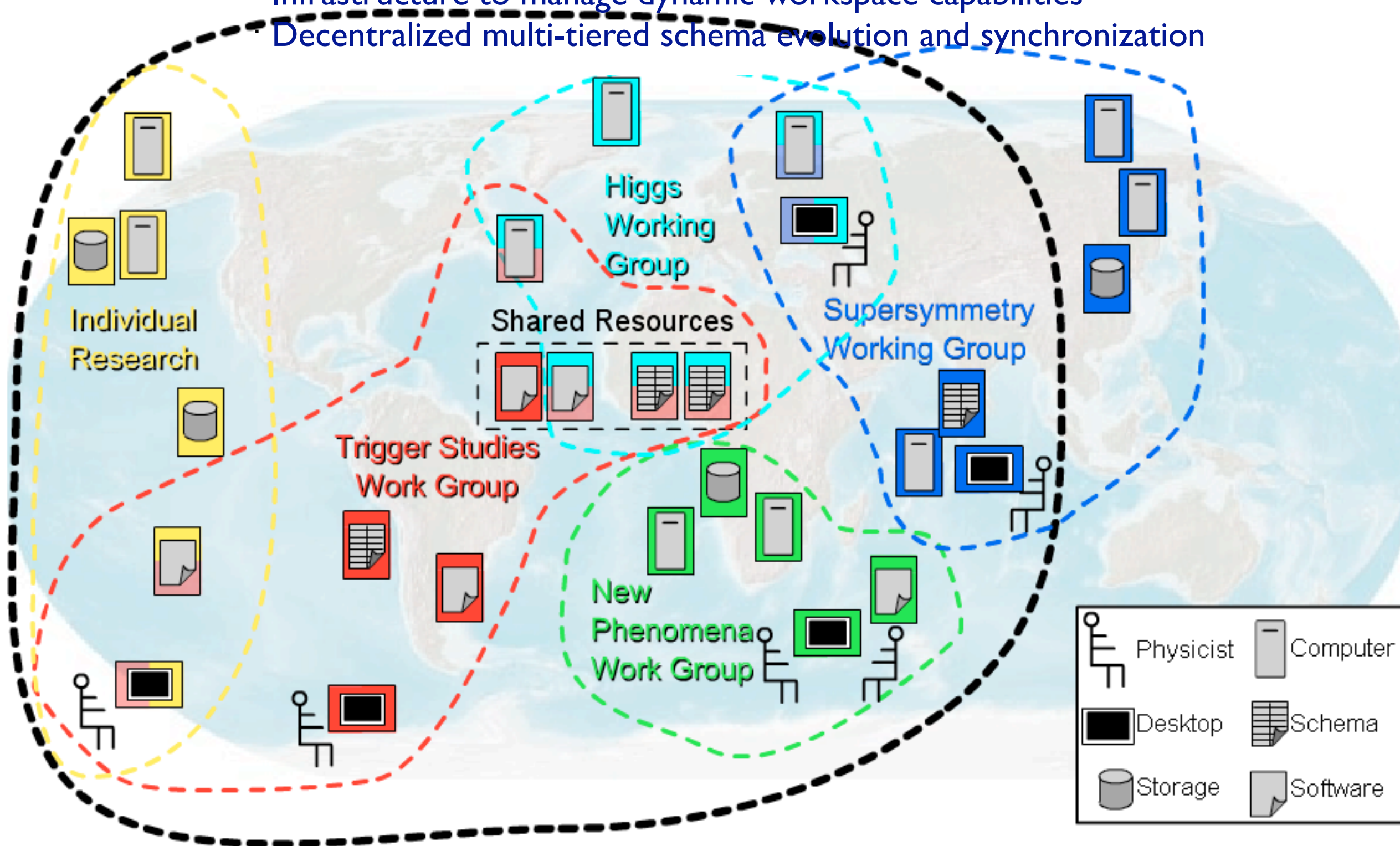
Empowering Collaborating Science Communities to derive and analyze data within a global context

Global Knowledge & Resource Management + Collab.Tools

Infrastructure to support “Community Grids”

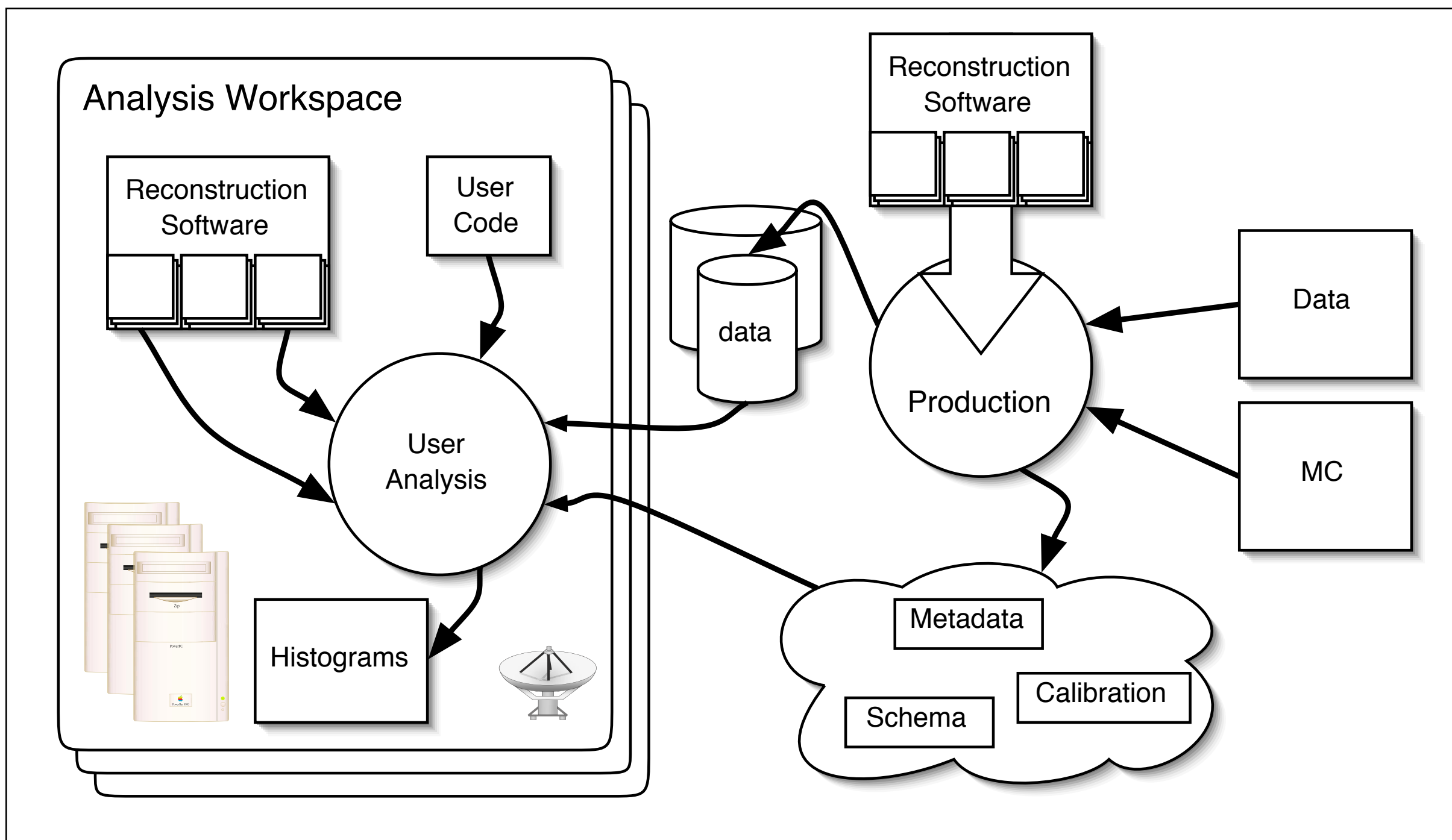
Infrastructure to manage dynamic workspace capabilities

Decentralized multi-tiered schema evolution and synchronization



Analysis Workspaces

Production vs. Analysis

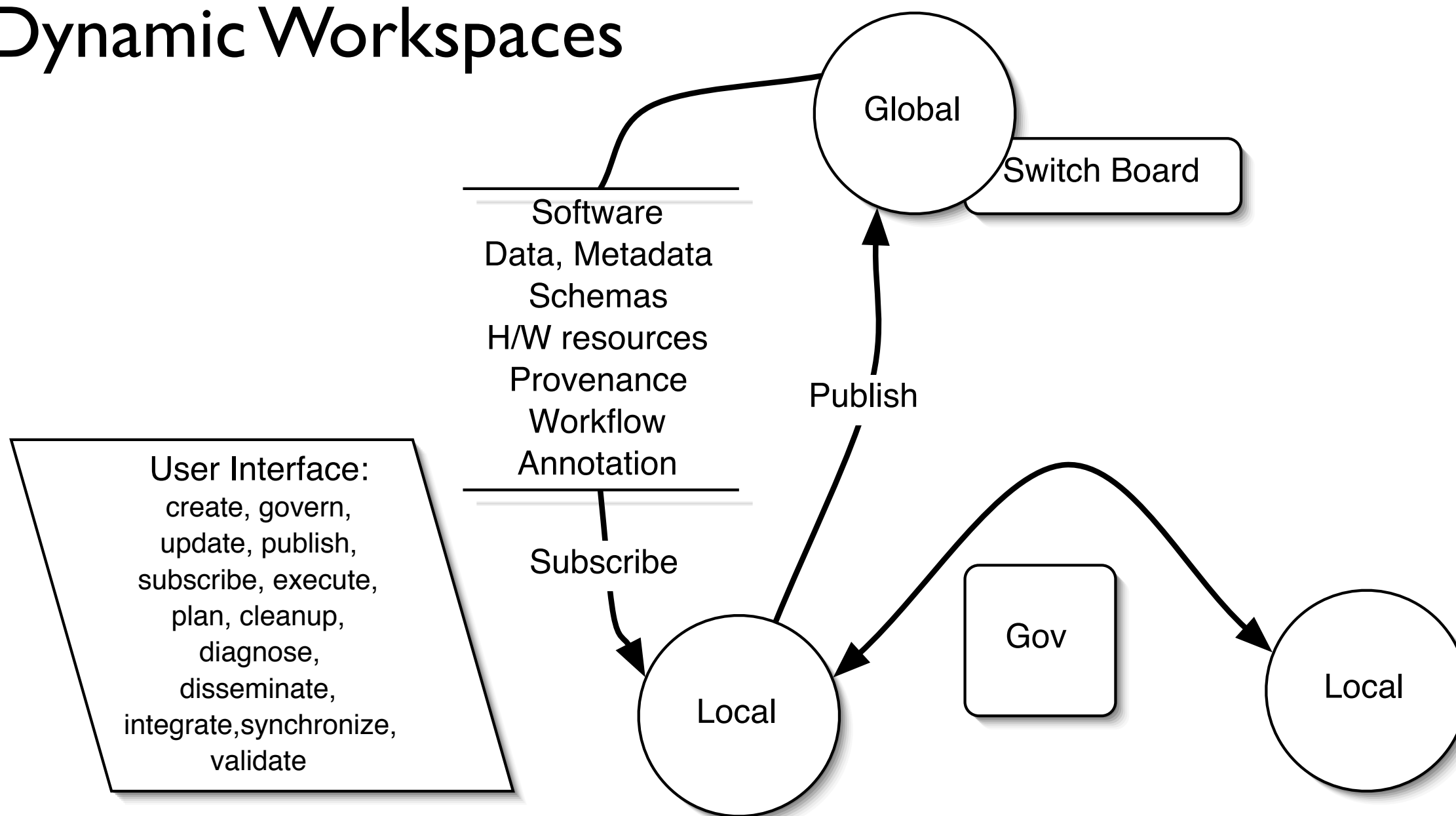




Global CMS and Local Analysis

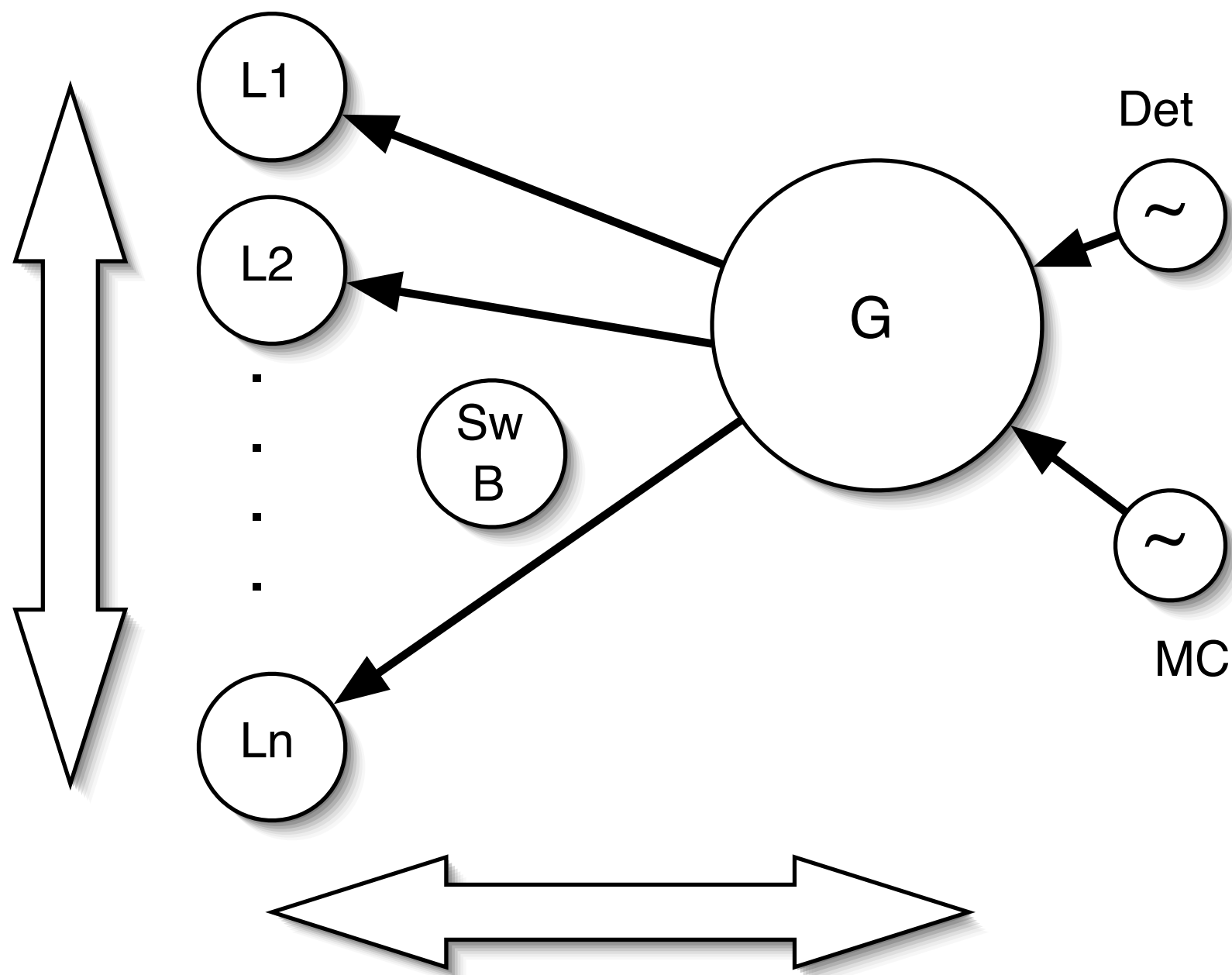
Physicists Subscribe to “Artifacts” from Global to Local Workspace

Dynamic Workspaces





Sharing Between Local Workspaces





Deliverables

Deliverables in terms of Toolkit

Area 1: Workspace Manager

“Workspace Finder”: technologies to support dynamic workspaces...

Area 2: Knowledge Management

“Workspace Navigator”: technologies to support knowledge systems...

Area 3: Human Interface

“Workspace Toolkit”: UI paradigms, tools, packaging, dissemination